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MULLEN, THOMAS J

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/788,505	Applicant(s) LAKE, RICKIE C.	
	Examiner Thomas J. Mullen	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 51-81 is/are pending in the application.
- 4a) Of the above claim(s) 51-64 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 65-81 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. Claims 51-64 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on 5/12/08.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. In particular, since the method claims are withdrawn from consideration as a result of the restriction requirement and applicant's response, the references to a "method" should be removed from the title if the method claims are ultimately cancelled.

3. The patent number associated with parent application 09/989,960 (US 6885089) should be inserted on page 1 of the specification in the appropriate place. Also, the applications discussed on pp. 9-10 of the specification should each be identified by their serial numbers (and patent numbers, if any, or the phrase "now abandoned", if appropriate).

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the components of the "integrated circuit" (processor, receiver, transmitter, wake-up circuit) and the "frequency lock loop" having a "current source" with a "thermal voltage generator" and a "current controlled oscillator" having "current mirrors" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Regarding the other applications which are incorporated by reference (see pp. 10-11 of the present specification), due to the sheer size of at least the first of these applications (i.e., the patent which issued from application 08/705,043 is over 3300 pages long), if the above subject matter is shown in one or more of these applications (and applicant intends to rely on that showing), applicant is requested to point out where it is shown.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. Claims 67, 76 and 78-81 are objected to under 37 CFR 1.75(a) for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 67, last 2 lines, "multiplying up the current" is vaguely worded; perhaps "up" should be changed to --the value of--, or something similar.

Claim 76, next-to-last line, it appears that "(00K)" should be --(OOK)-- (i.e., the zeros should be capital O's).

Claim 78, line 6, "the flexible conductive path" lacks antecedent basis.

Claim 79, line 3, it appears that "batter" should be --battery--.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 65-77 and 79 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In each of claims 65 and 68, it is unclear whether "a second portion of the conductive path" (last 2 lines) refers to the same conductive path portion as "a second portion" (line 5), or to a different conductive path portion.

It is unclear whether claims 66-67 and 69-77 are dependent claims or independent claims, due to these claims having preambles of the form "The device of 65..."; i.e., it is unclear if "65" (in the example given) means claim 65, implying a claim dependency, or if "65" refers to some quantity.

In claim 72, it is unclear whether the wake-up circuit "activat(ing)" the receiver (line 2), and the wake-up circuit "waking" the receiver (line 3), mean the same or different things.

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In claim 79, line 2, "a dipole antenna provided on the substrate and coupled to the antenna" is unclear as to whether the second-recited "antenna" is the same or different element as the first-recited "antenna".

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 68 and 78-81 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 12 of U.S. Patent No. 6,885,089. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 12 of the '089 patent recites a radio frequency communication device comprising a substrate, conductive paths including a first portion and a second portion, an antenna, an integrated circuit chip, a thin profile battery and a conductive adhesive, which correspond in function to the like-named elements recited in claim 68 herein. At the time of the invention it would have been obvious to make the substrate and conductive paths "flexible" in order to expand the types of articles to which the RF communication device may be applied and/or the environments in which the RF communication device may be used; it would have been obvious

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for the antenna to be a "dipole" antenna as the uses and advantages of such antennas were well known in the art of RF communication devices; and, it would have been obvious for the IC chip to be an "RFID" integrated circuit as the uses and advantages of such ICs were well known in the art of RF communication devices. As to claims 78-80, claim 12 of the '089 patent further recites that the conductive adhesive comprises an "epoxy terminated silane", from which it appears to be inherent that the adhesive includes an epoxy "configured to be conductive at least after being cured"; also, it would have been obvious (if not inherent) to "connect the RFID integrated circuit to the battery" at least partly due to the conductive adhesive electrically coupling the battery to the substrate and/or conductive path. As to claim 81, it would have been obvious (if not inherent) for the conductive adhesive to engage a "terminal" of the battery, as is well known in the art.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 78-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuttle (US 5406263, hereinafter Tuttle '263) in view of Tuttle (US 5558679, cited by applicant, hereinafter Tuttle '679).

(Note: both Tuttle '263 and Tuttle '679 qualify as prior art under 35 U.S.C. 102(b).)

Tuttle '263 (Figs. 2 and 3A) discloses an RFID device, note substrate 30; batteries 38,40; RFID integrated circuit ("IC chip") 32, mounted on the substrate 30; dipole antenna 34,36; conductive paths 46,48; and "cured adhesive including an epoxy configured to be conductive at least after being cured" (i.e., "epoxy conductive material" 56--col. 2, line 49 and Figs. 3B-3C). As to claim 78, Tuttle '263 teaches using the epoxy 56 between the IC chip 32 and the substrate 30 (col. 3, lines 39-42), and that the batteries 38,40 are in series with the IC chip 32 through the conductive paths 46,48 (col. 3, lines 27-29 or 36-38). Tuttle '263 fails to specifically teach

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applying the conductive epoxy 56 between the batteries 38,40 and the substrate 30 and/or paths 46,48, to thereby electrically couple the batteries 38,40 to the substrate 30 so as to electrically couple the IC chip 32 to the batteries 38,40. However, at the time of the invention it was known to use a conductive adhesive to provide a more reliable electrical connection between two or more electrical components of a circuit; e.g., Tuttle '679 teaches "an improved method of attaching a battery to a substrate" (Abstract), using a "z-axis anisotropic adhesive" 62 such as a "metal filled epoxy" to electrically couple a battery 10 to a substrate 46 and/or to conductive paths 48,50 (col. 2, line 63 to col. 3, line 28; note substrate 46, conductive paths 48,50 and adhesive 62 in Figs. 3-4, and battery 10 in Figs. 1-3). In view of Tuttle '679 it would have been obvious to apply the conductive epoxy 56 of Tuttle '263 between the batteries 38,40 and the substrate 30 and/or paths 46,48 of Tuttle '263, to thereby electrically couple the batteries 38,40 to the substrate 30 so as to electrically couple the IC chip 32 of Tuttle '263 to the batteries 38,40, in order to achieve the above-mentioned aim of providing a more reliable electrical connection between the operative electrical circuit components in Tuttle '263 (IC chip 32, batteries 38,40 and antenna 34,36).

As to claim 79, note dipole antenna 34,36 in Tuttle '263 (col. 2, lines 65-66); as shown in Fig. 2 of Tuttle '263, the batteries 38,40 inherently have a "thin profile".

12. Claims 65-66, 68-72, 76-77 and 80-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuttle '263 in view of Tuttle '679 as applied to claims 78-79 above, and further in view of Bandy et al (US 6002344; eff. date 11/21/97).

As to claims 65, 68, 77, 80 and 81, Tuttle '263 and Tuttle '679 fail to teach that the substrate (30 in Tuttle '263) and/or conductive paths (46,48 in Tuttle '263) are "flexible", nor (as to claims 77 and 81) that the conductive paths are "printed" onto the substrate. (As to claims 65 and 68, it is inherent that IC chip 32 and batteries 38,40 in Tuttle '263 are each connected to either a "first portion" or a "second portion", or both, of conductive paths 46,48, as these path "portions" are shown in Fig. 3A.) However, at the time of the invention it would have been obvious to make the substrate and conductive paths "flexible" in order to expand the types of articles to which the RF communication device may be applied and/or the environments in which the RF communication device may be used; for example, Bandy et al disclose an RFID tag 102A

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(Fig. 9), note IC chip 904A, bonding pads 908A, battery components (910A,910C) and antenna 302A, all mounted on a "flexible substrate", the antenna 302A and/or pads 908A inherently defining "conductive paths" which are "printed" onto the substrate (col. 10, lines 50-51). See also col. 9, line 47 to col. 10, line 12, and col. 10, lines 54-62 in Bandy et al. In view of Bandy et al it would have been obvious to make the substrate 30 of Tuttle '263 in view of Tuttle '679 "flexible", such that the conductive paths (46,48) are "printed" onto the substrate, for the purpose stated above and also to reduce the time and/or steps needed to manufacture the device, and/or to minimize the size and/or weight of the device's components, as would be appreciated by those skilled in the art.

Further as to claim 81, it is considered inherent that the batteries 38,40 in Tuttle '263 have a "terminal" by which they are electrically connected to the other components.

As to claim 69 (and further as to claim 65), note in Fig. 4 of Tuttle '263 "processor" 164, transmitter 174 and receiver 160.

As to claims 70 and 76 (and further as to claim 65), Bandy et al further teaches using a "modulated backscatter" transmitter and "amplitude-modulated (AM)...signals" (note modulator 320 in Fig. 3, and col. 5, lines 36-38 in Bandy et al); i.e., Bandy et al teaches that the transmitter of the circuit in Fig. 3 is capable of using "backscatter modulation" and also capable of using "Amplitude Modulation (AM)". In view of Bandy et al it would have been obvious to use "modulated backscatter" communication and/or AM communication between the RFID tag of Tuttle '263 in view of Tuttle '679 (note Fig. 4 in Tuttle '263) and a remote RFID component, the advantages of such communication types being well known in the RFID art.

As to claim 71 (and further as to claim 65), note "wake up circuit" 163 in Fig. 4 of Tuttle '263.

As to claims 66 and 72, Tuttle '263 fails to teach how wake-up circuit 163 (Fig. 4) operates, as far as controlling how or when the RFID tag transmits and/or receives signals. However, it would be recognized by those skilled in the art that the tag should be "awake" at least when an external component such as a reader (52 in Fig. 5 of Tuttle '263) is attempting to communicate with the tag, preferably by recognizing a particular "command" from the external component which is addressed to that particular tag. Bandy et al further teaches that tag 102 receives "instructions" from an external component (reader 104), which instructions are decoded

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by an "instruction interpreter" 310 of the tag 102 (col. 4, lines 48-56), such that the tag 102 responds to the reader 104 based on the instructions, and only when it receives at least a "Tag ID" as part of the interrogation signal from the reader (see more generally, col. 3, lines 2-3 and col. 4, line 13 to col. 5, line 43 in Bandy et al). In other words, Bandy et al teaches that tag 102 recognizes a particular "command" from the reader 104 which is addressed to that particular tag. In view of Bandy et al, it would have been obvious for the wake-up circuit 163 of Tuttle '263 to "determine when a valid command is being received" from an external component (e.g. reader) and supply power from batteries 38,40 to the processor 164 in response thereto, for the reasons discussed above. Further as to claim 72, where Bandy et al further teaches that tag 102 only responds to the reader 104 during a particular "time slot" (see col. 3, lines 2-3 and 19-25), it follows that the tag 102 is only "periodically" activated, i.e. when a "valid command" (having the "Tag ID") is being received.

13. Claims 67 and 73-75 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, and/or the objection(s) under 37 CFR 1.75(a), set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The remaining art cited by applicant has been considered. Beigel (US 5973598) and Brady et al (US 5786626) are cited to further show the state of the art.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Mullen, Jr. whose telephone number is 571-272-2965. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu, can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Thomas J. Mullen/

Primary Examiner, Art Unit 2612